

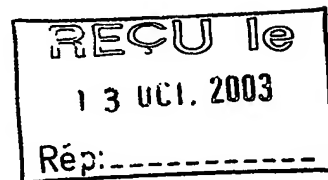


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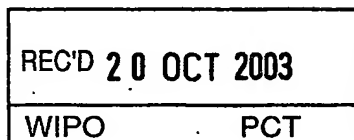
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Bescheinigung

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Attestation



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Patentanmeldung Nr. Patent application No. Demande de brevet n°

02292278.5

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For the President of the European Patent Office

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Anmeldung Nr:
Application no.: 02292278.5
Demande no:

Anmeldetag:
Date of filing: 17.09.02
Date de dépôt:

Anmelder/Applicant(s)/Demandeur(s):

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Bezeichnung der Erfindung/Title of the invention/Titre de l'invention:
(Falls die Bezeichnung der Erfindung nicht angegeben ist, siehe Beschreibung.
If no title is shown please refer to the description.
Si aucun titre n'est indiqué se référer à la description.)

Hybrid chip

In Anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s)
revendiquée(s)
Staat/Tag/Aktenzeichen/State/Date/File no./Pays/Date/Numéro de dépôt:

Internationale Patentklassifikation/International Patent Classification/
Classification internationale des brevets:

H01L21/00

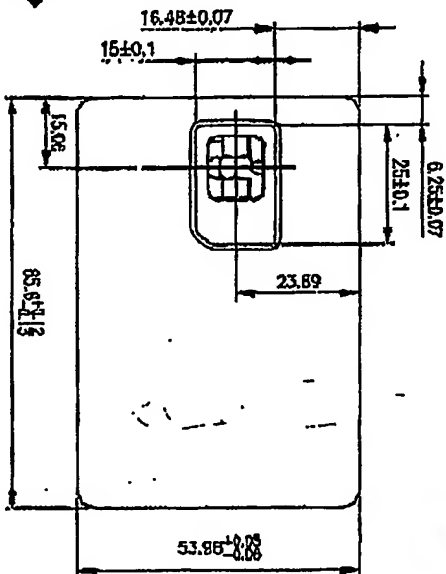
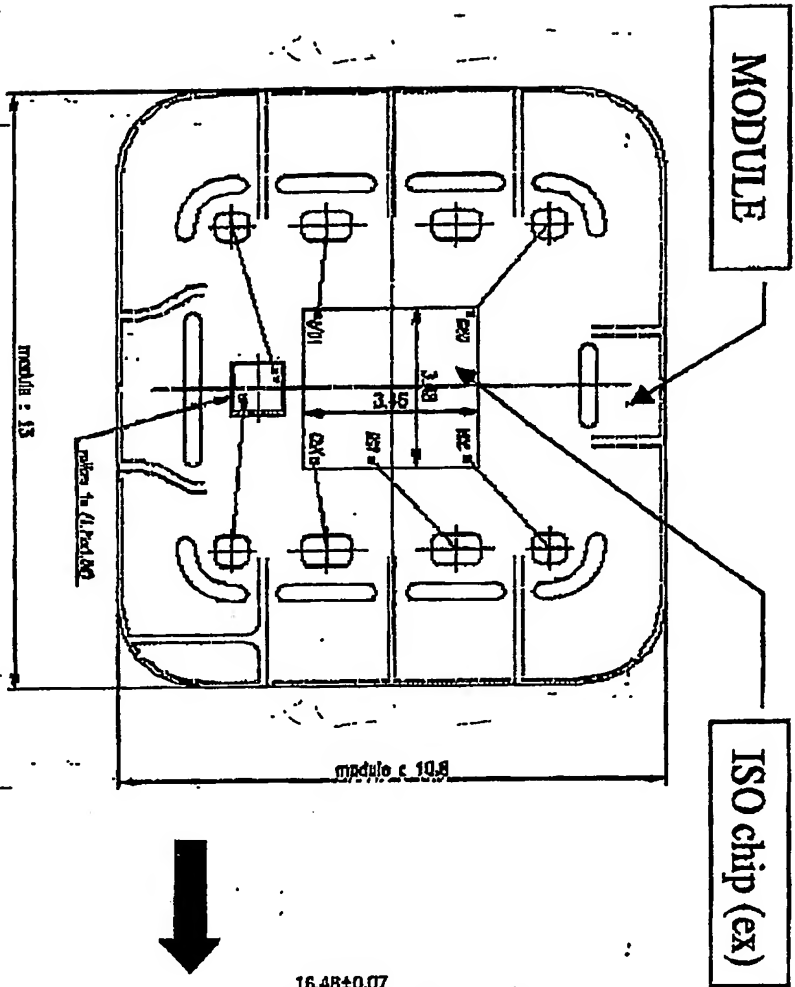
Am Anmeldetag benannte Vertragsstaaten/Contracting states designated at date of
filing/Etats contractants désignées lors du dépôt:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

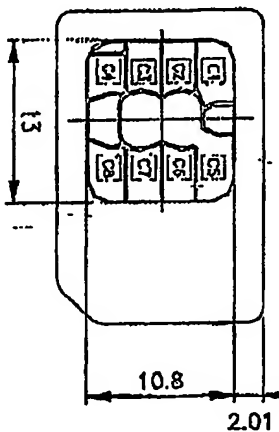
Claims

- 1. An hybrid device comprising an hybrid module wherein the hybrid module comprises an integrated circuit.**

Chips bonded side by side

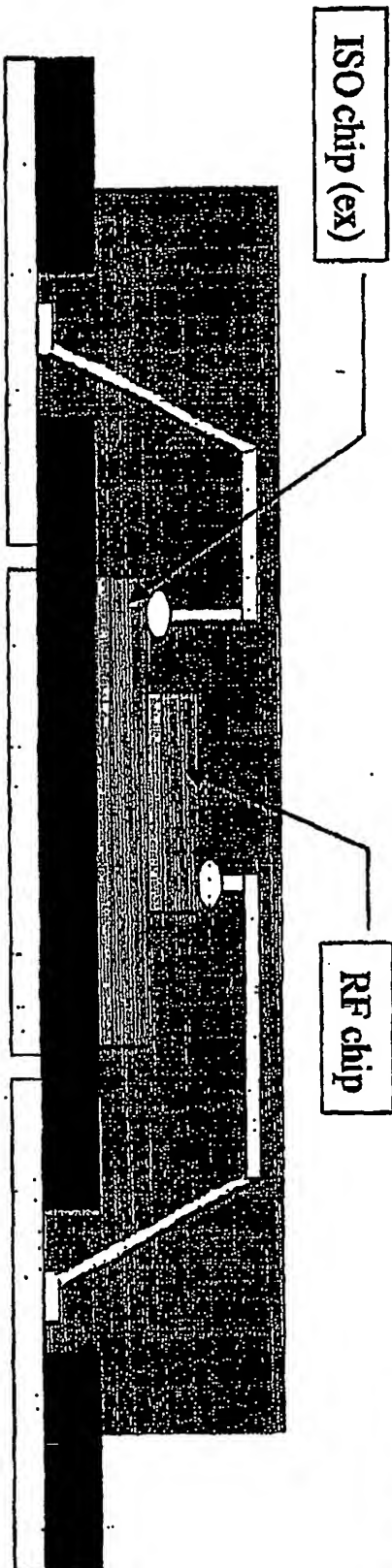


- standard process and equipment;
- linked to requested chip, module modification certainly needed



SchlumbergerSema

Stacked chips (1/2)

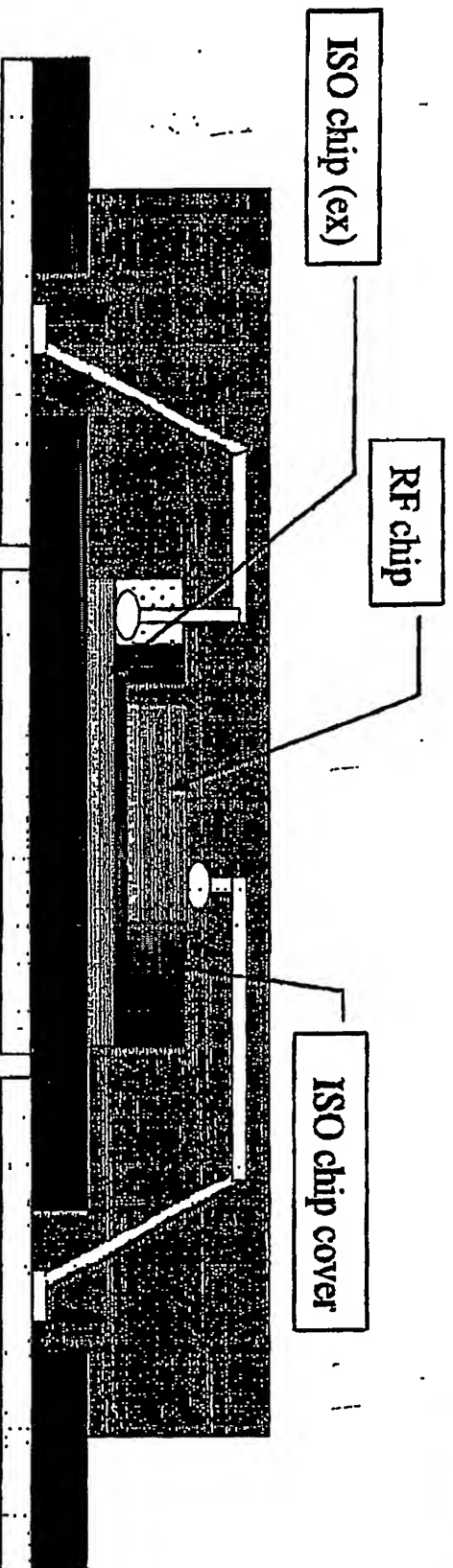


- flexible solution,
- need to use thin chips (80-100 μ m Vs 180 μ m in standard):
 - ⇒ lot of contacts already exist with founders or subcontractors able to thin wafers,
 - ⇒ handling of thin wafer already in Schlumberger culture,
 - ⇒ characterisation method for thin silicon mechanical behaviour designed.

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Stacked chips (2/2)

⇒ to limit use of very thin wafers, used of Schlumberger SiShell technology:



⇒ For other project, Schlumberger developed a technology consisting in process very thin wafer (40 μ m) on which is bonded a silicon cover:

- the RF chip is placed in an hole in the cover ⇒ no more need to thin the wafer,
- technology already mastered by Schlumberger ⇒ workshop and process set up in 2001

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